Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:

Carrier Current Systems, including Broadband over Power Line Systems	**)**	**ET Docket No. 03-104**
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems	**)**	**ET Docket No. 04-37**

To: The Commission

REPLY COMMENTS OF RAY SOIFER

Ray Soifer hereby respectfully submits a reply to those comments filed in response to the *Notice of Proposed Rule Making* (the Notice), FCC 04-29, released February 23, 2004, 69 Fed. Reg. 12612 *et seq*. These comments are timely filed. For his reply comments, Ray Soifer states as follows.

1. I filed comments in response to the Notice, as well as comments and reply comments in response to the *Notice of Inquiry*, ET Docket No. 03-104, FCC 03-100, 68 Fed. Reg. 28182, released April 28, 2003 and corrected May 23, 2003 at 68 Fed. Reg. 32720.

2. Measurements taken at existing Access BPL test sites, and provided to the Commission, have clearly demonstrated that the emissions at those sites are strong enough to cause severe and harmful interference to amateur stations. This interference is not limited to specific times and spot frequencies, but is steady and pervasive throughout the amateur bands in which the test systems operate. Among those who provided such measurements to the Commission with their comments are Carl R. Stevenson (Stevenson) and ARRL, the National

Association for Amateur Radio (ARRL). Stevenson, a recognized authority in this field, promised to provide additional measurements in his reply comments.

3. Despite this evidence to the contrary, some pro-BPL commenters such as Progress Energy (Progress) claim that "the interference potential of Access BPL is marginal[1]." Progress admits that it has "received several complaints of alleged "harmful interference" from amateur radio operators (hams)[2]," but dismisses them since, according to Progress, "those who have submitted complaints about Progress Energy's BPL system intentionally seek out interference using very sophisticated and sensitive equipment." Isn't that why a test site exists, so measurements of interference and other relevant parameters can be made and analyzed, problems identified, and possible solutions developed? And, shouldn't such measurements be done using the best available technology?

4. Ambient Corporation (Ambient), a manufacturer of Access BPL systems, claims that "under the Commission's policies, 'a certain amount of interference between devices is acceptable; however, beyond a certain limit interference can be considered harmful [footnote omitted]'. Ambient requests that the Commission set the boundaries for what is considered harmful interference so that there is a realistic opportunity for the early deployment of BPL technologies…[3]" In other words, Ambient is asking the Commission to define away the problem, i.e., to define "harmful interference" in such a way as to enable Access BPL to be deployed rapidly. The only support cited by Ambient for this position, in the aforementioned omitted footnote, is a staff working paper[4] which, as such, has no legal significance whatsoever.

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[1] ¶6, at 5.
[2] ¶7, at 8.
[3] Ambient comments, at 4.
[4] OSP Working Paper Series, "Unlicensed and Unshackled: A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues," May 2003, pp. 45-46.

5. In any event, "harmful interference" is already defined in the ITU Radio Regulations as "interference which endangers the functioning of a radionavigation service or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with these Radio Regulations.[5]" This definition is repeated at various places in the Commission's Rules, including 47 C.F.R. §15.3(m) and 47 CFR §97.3(a)(23). Not only is another definition unnecessary, but the Radio Regulations themselves prohibit the Commission from adopting or applying any definition of harmful interference not consistent with this international treaty language to which the United States is signatory. What matters under this definition is not the strength or power flux density of the interfering signal, but its effect.

6. As ARRL's legal analysis demonstrates, licensed services such as amateur radio are entitled under the Communications Act and, in the case of international communication, the Radio Regulations, to absolute protection from harmful interference caused by Part 15 devices such as Access BPL systems, while such systems must accept any interference they may receive from licensed stations operating in accordance with the Table of Frequency Allocations. The Commission has no statutory authority to create exceptions or "safe harbors," to require licensed stations to "tolerate a certain amount" of harmful interference from Part 15 devices, or to take measures to accommodate them such as moving antennas, changing frequencies, etc.

7. My own comments in response to the Notice, as well as those of ARRL, Stevenson, Potomac Valley Radio Club (PVRC) and others, pointed out that the adaptive features of Access BPL technology, cited by Progress as a way of mitigating interference, offer no meaningful protection to amateur radio, since the BPL system has no way of knowing the frequency to which an amateur station is listening. The only feasible way of providing such protection, short of prohibiting Access BPL altogether as some foreign countries have found it necessary to do, is

[5] CS 1003, RR 1.169.

to require Access BPL systems to notch out all amateur bands, and to adopt adequate technical standards for doing so, consistent with the Radio Regulations. This would also benefit the Access BPL industry and the Commission itself, by greatly reducing the administrative burden that would otherwise develop to deal with interference complaints to and from Access BPL systems. PowerWAN, Inc. (PowerWAN), another manufacturer of Access BPL systems, notes that its technology already notches out the amateur bands.

8. As William A. Tynan (Tynan), Radio Amateur Satellite Corporation (AMSAT) and several others noted, however, merely notching out amateur bands within the frequency spectrum employed by Access BPL systems may not be sufficient, since harmful interference to amateur stations may also result from harmonics of BPL emissions. Further technical investigation of this issue is needed before Access BPL is authorized, to determine what, if any, preventative measures are required.

9. The National Telecommunications and Information Administration (NTIA) submitted comments dated June 4, which comments included a lengthy (11 MB) technical appendix which I have not yet had sufficient time to review. I therefore reserve the right to submit an additional, late-filed comment in response to NTIA which I hope the Commission will consider.

10. On one key point, however, I must respectfully disagree with NTIA when it argues that Access BPL will reduce interference from power line noise. This assumes, implicitly, that power line noise is something that licensed services, such as amateur radio, must tolerate. On the contrary, utilities are required to prevent power line noise from causing harmful interference, and to eliminate such interference promptly if it occurs. Licensed services are not required to accept interference from Access BPL in order to reduce interference from power line noise. I

urge the Commission to make clear in its rulemaking that utilities are required to prevent harmful interference from both sources.

RESPECTFULLY SUBMITTED,

/s/

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June 22, 2004